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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,813	07/17/2006	Femia Hopwood	RICE-037	1763
24353 7590 05/31/2007 BOZICEVIC, FIELD & FRANCIS LLP 1900 UNIVERSITY AVENUE SUITE 200 EAST PALO ALTO, CA 94303			EXAMINER AL HASHIMI, SARAH	
			ART UNIT 2853	PAPER NUMBER
			MAIL DATE 05/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/550,813

Applicant(s)

HOPWOOD ET AL.

Examiner

Sarah Al-Hashimi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 09/23/2005.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 09/23/2005 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Drawings

3. The drawings are objected to because in paragraph 38 of the specification figure 2e is mentioned. Examiner believes applicant meant figure 2c. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If

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the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The subject matter of this application admits of illustration by a drawing to facilitate understanding of the invention. Applicant is required to furnish a drawing under 37 CFR 1.81(c). No new matter may be introduced in the required drawing. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d).

Figs 8, 9, 10 are mentioned in the Specification. Although it appears that figures 4 and 5 are what the applicant meant, it is unclear. Should there be missing drawings please submit them or correct the errors in the specification.

Specification

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claim 1** is rejected under 35 U.S.C. 102(b) as being anticipated by Trompen (US 2004/0199116).

Trompen teaches:

Claim 1: a removable reservoir for containing liquid for dispensing from the apparatus (para 18 “the reservoir may be ...removable” and abs “reservoir for storing a liquid”); a piezoelectric dispensing tube defining a bore in fluid communication with the reservoir (para 24 “the piezoelectric elements in a tube”); and means for applying a vacuum and/or pressure to the contents of the reservoir when the reservoir is located in the apparatus (para 19 “the piezoelectric pump or valve may be capable of dispensing the liquid as the system pulls a vacuum condition”).

8. **Claim 7&9,20** are rejected under 35 U.S.C. 102(b) as being anticipated by Hayes (US 4,877,745).

Hayes teaches:

Claim 7: A reservoir assembly for containing liquid for dispensing from a piezoelectric dispensing device (fig 1 #200 all three reservoirs comprise the assembly and col 16 lines 6-8 “the jetting head 400 comprises a housing 403, a reagent fluid supply tube 406, a piezoelectric transducer”), the piezoelectric dispensing device comprising a

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dispensing end and a non-dispensing end (fig 2e #434 is a piezoelectric tube and #433 is the dispensing end), wherein the assembly comprises a first filter means and a second filter means (fig 1 #300 there are three filters, thereby including a first and second).

Claim 9: the second filter is located between the reservoir and the non-dispensing end of the piezoelectric dispensing tube to prevent particulate matter collected on the underside of the reservoir from entering the tube (fig 2c the reservoir #200, the filter #300 tops the supply tube #430 which is part of #434).

Claim 20: A method of dispensing fluid from a piezoelectric tube assembly, the assembly comprising a piezoelectric tube having a dispensing end and a non dispensing end (fig 2e #434 is a piezoelectric tube and #433 is the dispensing end), the method comprising dispensing fluid from a reservoir disposed in fluid communication with the non-dispensing end of the piezoelectric tube (fig 1 #200).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Trompen (US 2004/0199116) in view of Piatt (US 4,934,564).

Trompen does not teach but **Piatt** teaches:

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Claim 2: the reservoir defines an open top to allow liquids to be poured into the reservoir (col 2 lines 41-42 "A flexible liquid reservoir 46 with an open top").

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Trompen to incorporate the reservoir defines an open top to allow liquids to be poured into the reservoir as taught by Piatt in order to make it possible to replenish the reservoir without having to remove it or physically manipulate the reservoir making it easier to refill the reservoir.

11. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Trompen (US 2004/0199116) in view of Piatt (US 4,934,564) as applied to claim 2 above, and further in view of Seidler (US 3,774,455).

Trompen in view of **Piatt** do not teach but **Seidler** teaches:

Claim 3: the top of the reservoir is flared outwardly (col 2 lines 21-2 "container is flared").

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Trompen in view of Piatt to further incorporate the top of the reservoir is flared outwardly as taught by Seidler in order prevent messy spills by making a wider area to pour liquid into.

12. **Claims 4-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Trompen (US 2004/0199116) in view of Piatt (US 4,934,564) and further in view of Seidler (US 3,774,455) as applied to claim 3 above, and further in view of Kiser (US 6,854,595).

Trompen teaches:

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Claim 6: a seat for receiving the removable reservoir (fig 1 #16 the post serves as a seat for the reservoir)

Trompen in view of **Piatt** and further in view of **Seidler** does not teach but **Kiser** teaches:

Claim 4: the means for applying a vacuum and/or pressure to the contents of the reservoir when the reservoir is located in the apparatus comprises a plunger shaped and configured to abut with and seal the top of the reservoir (fig 1 #18 and col 4 lines 62-63 "the plunger 18 is substantially flush with the top surface of the tip").

Claim 5: the plunger comprises a through bore to permit the application of vacuum or pressure to the reagent vessel through the bore (fig 1 #18 the cylindrical shape of the plunger comprises a through hole as it enters the reservoir").

Claim 6: means for moving the plunger up and down towards and away from the seat (col 4 lines 65-66 "pressure on the top end of the plunger 18 causes the plunger 18 to slide downwardly").

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Trompen in view of Piatt and further in view of Seidler to further incorporate the means for applying a vacuum and/or pressure to the contents of the reservoir when the reservoir is located in the apparatus comprises a plunger shaped and configured to abut with and seal the top of the reservoir as taught by Kiser in order to enhance the dispensing property of the device by closing off air that may cause pockets in the dispenser and cause bubbles that corrupt printing.

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13. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayes (US 4,877,745) in view of Kopf (US 6,946,075).

Hayes does not teach but Kopf teaches:

Claim 8: the second filter has a pore size smaller than the pore size of the first filter (col 18 line 36 "a purification system that employs two cross-flow filter modules of different pore size").

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Hayes to incorporate the second filter has a pore size smaller than the pore size of the first filter as taught by Kopf for enhanced purity of the ejected liquid.

14. **Claim 10,11,13,14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Trompen (US 2004/0199116) in view of Piatt (US 4,934,564) and Pawlowski (US 6,137,513).

Trompen teaches:

Claim 10: a reservoir for containing liquid to be dispensed from the device (fig 1 #12), a filter for filtering liquids passing through the outlet (fig 15 #27); a piezoelectric dispensing tube defining a bore (fig 1 #14); means for removably attaching the piezoelectric dispensing tube in fluid communication with the reservoir (para 18 "the reservoir may be ...removable").

Claim 11: an annular foot portion on which the base of the reservoir is positionable wherein the closure means is spaced from the surface on which the foot rests (fig 1 #16).

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Claim 12: a handle attached to the reservoir (fig 1 #11).

Trompen does not teach:

Claim 10: the reservoir comprising an open top and an outlet at a base of the reservoir; the attaching means comprising a closure means disposed at the base of the reservoir for closing the outlet of the reservoir when the reservoir is not attached to the piezoelectric dispensing tube.

Piatt teaches:

Claim 10: the reservoir comprising an open top and an outlet at a base of the reservoir (col 2 lines 41-42 "A flexible liquid reservoir 46 with an open top").

Pawlowski teaches:

Claim 10: the attaching means comprising a closure means disposed at the base of the reservoir for closing the outlet of the reservoir when the reservoir is not attached to the piezoelectric dispensing tube (fig 15 #160).

Claim 13: the closure means is a septum (fig 15 #160).

Claim 14: the closure means is a valve (col 5 lines 51-53 "a regulator valve within print cartridge 50 that regulates pressure by opening and closing hole 65").

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Trompen to incorporate the reservoir comprising an open top and an outlet at a base of the reservoir as taught by Piatt in order to make it possible to replenish the reservoir without having to remove it or physically manipulate the reservoir making it easier to refill the reservoir and the attaching means comprising a closure means disposed at the base of the reservoir for closing the outlet of the

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reservoir when the reservoir is not attached to the piezoelectric dispensing tube as taught by Pawlowski in order to prevent leakage when removing the reservoir.

15. **Claim 15-18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Amberntsson (US 3,953,862) in view of Brieden (US 2005/0126964) and Debesis (US 6,789,884) and Pawlowski (US 6,137,513).

Amberntsson teaches:

Claim 15: a reservoir for containing liquid to be dispensed from the device (fig 2 #12) and comprising an open top (fig 2 #33) and an outlet at a base of the reservoir (fig 2 #25 outlet); a filter extending across the outlet of the reservoir (fig 2 #34), the secondary filter assembly defining a bore in fluid communication with the reservoir when the secondary filter assembly is attached thereto (fig 2 #30),

Amberntsson does not teach:

Claim 15: a secondary filter assembly removably attachable to the base of the reservoir, the secondary filter assembly comprising means for removably attaching a piezoelectric dispensing tube in fluid communication with the bore; and means for closing the outlet of the reservoir when the removable secondary filter assembly is not attached to the reservoir.

Claim 16: a piezoelectric dispensing tube defining a bore attached to the outlet of the secondary filter assembly.

Brieden teaches:

Claim 15: a secondary filter assembly removably attachable to the base of the reservoir (para 2 "ring filter element is axially removable"),

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Debesis teaches:

Claim 15: the secondary filter assembly comprising means for removably attaching a piezoelectric dispensing tube in fluid communication with the bore (col 5 lines 65-67 “the flow system 10 must attach the ink inlet/outlet tubes 20 (a few millimeters in diameter) to the micron ink jet alignment apertures”).

Claim 16: a piezoelectric dispensing tube defining a bore attached to the outlet of the secondary filter assembly (col 5 lines 65-67 “the flow system 10 must attach the ink inlet/outlet tubes 20 (a few millimeters in diameter) to the micron ink jet alignment apertures”).

Pawlowski teaches:

Claim 15: means for closing the outlet of the reservoir when the removable secondary filter assembly is not attached to the reservoir (fig 15 #160).

Claim 17: the means for closing the outlet of the reservoir is a valve (col 5 lines 51-53 “a regulator valve within print cartridge 50 that regulates pressure by opening and closing hole 65”).

Claim 18: the means for closing the outlet of the reservoir are a septum and wherein a hollow needle for piercing the septum projects from the secondary filter assembly (fig 15 #160).

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Amberntsson to incorporate a secondary filter assembly removably attachable to the base of the reservoir as taught by Brieden and the secondary filter assembly comprising means for removably attaching a piezoelectric

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dispensing tube in fluid communication with the bore as taught by Debesis to make it possible to replace filters when they aren't properly working without disposing of the whole device and to incorporate means for closing the outlet of the reservoir when the removable secondary filter assembly is not attached to the reservoir as taught by Pawlowski in order to prevent leakage when removing the reservoir.

16. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Amberntsson (US 3,953,862) in view of Brieden (US 2005/0126964) and Debesis (US 6,789,884) and Pawlowski (US 6,137,513) and Kiser (US 6,854,595).

Amberntsson teaches:

Claim19: A piezoelectric dispensing apparatus comprising a reservoir for containing liquid to be dispensed from the device (fig 2 #12), the reservoir comprising an open top (fig 2 #33) and an outlet at a base of the reservoir (fig 2 #25 outlet); a filter for filtering liquids passing through the outlet (fig 2 #34);

Claim 19: an apparatus defining a seat for receiving the removable reservoir in the apparatus (fig 2 #29)

Amberntsson does not teach:

Claim19: a piezoelectric dispensing tube defining a bore and comprising means for removably attaching the piezoelectric dispensing tube in fluid communication with the reservoir; and a closure means disposed at the base of the reservoir for closing the outlet of the reservoir when a removable secondary filter is not attached to the reservoir; further including an apparatus defining a seat for receiving the removable reservoir in the apparatus, means for applying a vacuum or pressure to the contents of the reservoir

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said applying means comprising a plunger shaped and configured to abut with and seal the open top of the reservoir and which defines a through bore to permit the application of vacuum or pressure to the reservoir through the bore, the plunger being movable relative to the seat.

Debesis teaches:

Claim 19: a piezoelectric dispensing tube defining a bore and comprising means for removably attaching the piezoelectric dispensing tube in fluid communication with the reservoir (col 5 lines 65-67 "the flow system 10 must attach the ink inlet/outlet tubes 20 (a few millimeters in diameter) to the micron ink jet alignment apertures").

Pawlowski teaches:

Claim 19: a closure means disposed at the base of the reservoir for closing the outlet of the reservoir when a removable secondary filter is not attached to the reservoir (fig 15 #160).

Kiser teaches:

Claim 19: means for applying a vacuum or pressure to the contents of the reservoir said applying means comprising a plunger shaped and configured to abut with and seal the open top of the reservoir (fig 1 #18 and col 4 lines 62-63 "the plunger 18 is substantially flush with the top surface of the tip") and which defines a through bore to permit the application of vacuum or pressure to the reservoir through the bore (fig 1 #18 the cylindrical shape of the plunger comprises a through hole as it enters the reservoir"), the plunger being movable relative to the seat (col 4 lines 65-66 "pressure on the top end of the plunger 18 causes the plunger 18 to slide downwardly").

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Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Amberntsson to incorporate a secondary filter assembly removably attachable to the base of the reservoir as taught by Brieden and the secondary filter assembly comprising means for removably attaching a piezoelectric dispensing tube in fluid communication with the bore as taught by Debasis to make it possible to replace filters when they aren't properly working without disposing of the whole device and to incorporate means for closing the outlet of the reservoir when the removable secondary filter assembly is not attached to the reservoir as taught by Pawlowski in order to prevent leakage when removing the reservoir and to incorporate means for applying a vacuum or pressure to the contents of the reservoir said applying means comprising a plunger shaped and configured to abut with and seal the open top of the reservoir as taught by Kiser in order to enhance the dispensing property of the device by closing off air that may cause pockets in the dispenser and cause bubbles that corrupt printing.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Al-Hashimi whose telephone number is 571 272 7159. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571 272 2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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AN H. DO
PRIMARY EXAMINER
ART UNIT 2853